



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,671	10/12/2001	Toshiyuki Miyabashi	U 013667-3	1087
140	7590	08/28/2006	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			SHOSHO, CALLIE E	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,671

Applicant(s)

MIYABASHI ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/19/06 & 5/30/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-16, 18-20, 22 and 25-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-16, 18-20, 22 and 25-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/8/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/19/06 has been entered.
2. All outstanding rejections are overcome by applicants' amendment filed 5/19/06 and 1.132 declarations filed 5/19/06 and 5/30/06.

Claim Objections

3. Claim 8 is objected to because of the following informalities:

In claim 8, line 4, it is advised that "hydraluronic" is changed to "hyraluronic" (see page 30, line 30 of the present specification).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites that the hydrophilic group present on the surface of the pigment is “a sulfinic acid group $\text{-RSO}_2\text{H}$ where R represents a $\text{C}_1\text{-C}_{12}$ alkyl group or phenyl group or a derivative thereof”. The scope of the claim is confusing given that it is not clear what is meant by “derivative” or what types of groups this encompasses.

Similar confusion arises in claim 13 which also recites “derivative thereof” claim language.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 8-16, 18-20, 22, 25-31, and 33-34 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 2001/44384.

WO 2001/44384¹ discloses ink comprising water, 3-8% self-dispersing pigment wherein the pigment includes carbon black and has carboxyl group, sulfonic acid group, or salts thereof

¹ It is noted that when utilizing WO 2001/44384, the disclosures of the reference are based on Miyabayashi (U.S. 6,602,333) which is an English language equivalent of the reference. Therefore, the column and line numbers cited with respect to WO 2001/44384 are found in Miyabayashi.

on the surface, 5-15% wetting agent such as 1,2,6-hexanetriol or trimethylolpropane wherein the wetting agents are used singly or in combination and also include glycerin, 1-10% penetrant that is 1,2-alkyldiol such as 1,2-hexanediol or 1,2-pentanediol, 1-5% water-soluble solvent, acetylene glycol, pH regulator such as KOH, glycol ether, and 0.1-5% polymer emulsion comprising polymer fine particles having film-forming property wherein the polymer fine particles have structure obtained from carboxyl-containing unsaturated monomer and a structure crosslinked by a crosslinking monomer. It is further disclosed that the polymer emulsion is prepared by mixing initiator, surfactant, monomer, and water to allow emulsion polymerization followed by neutralization. Given that WO 2001/44384 discloses that the polymer is neutralized, it is clear that the polymer emulsion would inherently possess pH as presently claimed. There is also disclosed a method wherein the ink is printed using ink jet printer onto substrate (col.18, lines 8-10 and 25-27, col.19, lines 4-15, col.33, lines 48-52, col.34, lines 5-8, 11-12, 26-27, and 58-60, col.35, lines 58-60, col.36, lines 26-33, col.37, lines 47-52, col.38, lines 34-42, and col.40, lines 5-18, 22-23, 49-50, and 55-64).

Although there is no explicit disclosure of the reactivity of the polymer fine particles with divalent metal salt as required in present claim 33, it is understood (see page 10, line 19-page 11, line 7 of the present specification) that the reactivity is determined by both the fine polymer particle diameter and the amount of carboxyl groups on the surface of the particle. It is noted that WO 2001/44384 discloses polymer emulsion that naturally contain high amounts of carboxyl groups on the surface, i.e. obtained from carboxyl-containing unsaturated monomer, and have a diameter of 50-200 nm. Since WO 2001/44384 clearly meets both criteria for reactivity as

Art Unit: 1714

disclosed above, it is expected that the reference fine polymer particle will inherently exhibit reactivity similar to that claimed.

In light of the above, it is clear that WO 2001/44384 anticipates the present claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 1714

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 2001/44384 in view of Miyabayashi et al. (U.S. 6,271,285).

The disclosure with respect to WO 2001/44384 in paragraph 7 above is incorporated here by reference.

The difference between WO 2001/44384 and the present claimed invention is the requirement in the claims of specific polymer emulsion.

WO 2001/44384 discloses polymer emulsion wherein the polymer is obtained from carboxyl-containing unsaturated monomer and crosslinkable monomer, however, there is no disclosure of the amounts of each monomer utilized.

Miyabayashi et al., which is drawn to ink jet ink, disclose the use of polymer emulsion comprising fine particle of polymer wherein the fine particles comprise 1-10% of a structure derived from unsaturated vinyl monomer having carboxyl group and 0.2-4% crosslinkable monomer-derived structure crosslinked by crosslinkable monomer in order to produce ink with excellent storage stability wherein the ink is more stably ejected (col.4, lines 25-27 and 44-57).

In light of the motivation for using specific polymer disclosed by Miyabayashi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such polymer in the ink of WO 2001/44384 in order to produce ink with excellent storage stability wherein the ink is more stably ejected, and thereby arrive at the claimed invention.

11. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 2001/44384 in view of Ohta et al. (U.S. 5,954,866).

The disclosure with respect to WO 2001/44384 in paragraph 7 above is incorporated here by reference.

The difference between WO 2001/44384 and the present claimed invention is the requirement in the claims of saccharide.

Ohta et al., which is drawn to ink jet ink, disclose the use of 0.1-40% saccharide in order to impart good moisture retention to the ink and produce ink with suitable viscosity so that the ink is ejected effectively from the printer (col.8, lines 3-27).

In light of the motivation for using saccharide disclosed by Ohta et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use saccharide in the ink of WO 2001/44384 in order to produce ink with good moisture retention that is ejected effectively from the printer, and thereby arrive at the claimed invention.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
8/17/06